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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,944	07/16/2001	John Ernest Hart	GJE-68	6466

23557 7590 12/09/2008

SALIWANCHIK LLOYD & SALIWANCHIK
A PROFESSIONAL ASSOCIATION
PO BOX 142950
GAINESVILLE, FL 32614-2950

EXAMINER	
AFREMOVA, VERA	
ART UNIT	PAPER NUMBER
1657	

MAIL DATE	DELIVERY MODE
12/09/2008	PAPER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte JOHN ERNEST HART

Appeal 2008-4225
Application 09/856,944
Technology Center 1600

Decided: December 9, 2008

Before DEMETRA J. MILLS, LORA M. GREEN, and JEFFREY N. FREDMAN, *Administrative Patent Judges*.

GREEN, *Administrative Patent Judge.*

DECISION ON APPEAL

This is a decision on appeal[1] under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1, 3-6, 8, and 11-14. We have jurisdiction under 35 U.S.C. § 6(b).

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[1] This Appeal was heard on November 20, 2008.

STATEMENT OF THE CASE

The claims are directed to a crude fraction of an endogenous material obtained from ovarian venous blood. Claim 1 is representative of the claims on appeal, and reads as follows:

1. An endogenous material, inducible in a mammal post-oestrus by chlomiphene, and having the ability to reduce the mass of body organs including non-gonadal organs, of a live adult material, the material being obtained by:
collecting ovarian venous blood from a female animal post-oestrus;
preparing ovarian venous plasma from the blood; and
at least partially purifying said material from the plasma to obtain at least a nominal 10-30 kD sub-fraction.

The Examiner relies on the following reference:

diZerega US 4,734,398 Mar. 29, 1988

We affirm, but as our reasoning differs from that of the Examiner, we designate our affirmance as a new ground of rejection.

ISSUE

The Examiner finds that claims 1, 3-5, 8, and 11-13 are anticipated by, or in the alternative, rendered obvious by diZerega. The Examiner also concludes that claims 1, 3-6, 8, and 11-14 are obvious over the teachings of diZerega.

Appellant contends that the "Follicular Regulating Protein" (FRP) as taught by diZerega appears is a different moiety than the moiety that Appellant terms micrin.

Thus, the issue on Appeal is: Does diZerega teach a crude subfraction of venous blood that anticipates the crude subfraction of venous blood of claim 1?

FINDINGS OF FACT

FF1 According to the Specification, "[t]he present invention is based on the discovery of an endogenous material (described herein as 'micrin') which can diminish the size and weight of many organs and tissues throughout the body." (Spec. 1.)

FF2 "Micrin has a molecular weight range of nominally 10-20kD when purified from blood." (*Id.*)

FF3 Micrin may be isolated from a suitable animal such as a sheep (*id.* at 3). Thus a sheep may be treated with clomiphene citrate day 3 post-oestrus in its reproductive cycle, and for the following three days (*id.*). Venous blood is collected into heparin six days post-oestrus, and the 10-30 kD fraction is collected from the plasma (*id.* at 6). The 10-20kD fraction may be prepared through further filtration (*id.* at 7). Thus, the Specification teaches the preparation of a crude fraction, in which a substance that the Appellant terms "micrin" may be found.

FF4 While micrin is inducible by clomiphene, the step of treating the mammal with clomiphene is optional (*id.* at 1), and depending on factors

such as the age of the mammal, clomiphene induction may not be necessary (*id.* at 4).

FF5 The presence of micrin can be confirmed by a bioassay of the crude fraction in which the effect of the micrin on body organ weight in an experimental animal, such as a mouse, is determined (*id.* at 9).

FF6 The Examiner rejects claims 1, 3-5, 8, and 11-13 under 35 U.S.C. § 102(b) as being anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as being rendered obvious by diZerega (Ans. 3). As Appellant does not argue the claims separately, we focus our analysis on claim 1, and claims 3-5, 8, and 11-13 stand or fall with that claim. 37 C.F.R. § 41.37(c)(1)(vii).

FF7 The Examiner finds that DiZerega discloses a material obtained from the venous blood of a human female, including females with a regular menstrual cycle (*id.* at 3-4).

FF8 The blood is collected 12-14 days after the last menstrual period (*id.* at 4 (citing diZerega, col. 8, l. 61)), which the Examiner finds to be "around [the] female ovulation period." (Ans. 4.)

FF9 The Examiner further finds that diZerega teaches "obtaining fractions with molecular weights in the ranges within 1-30 kD and/or 10-20 kD such as 12-15 kD, 14-18 kD, 22-25 kD." (*Id.*)

FF10 The Examiner therefore finds that the material of diZerega is

> obtained by a process comprising steps of collecting an ovarian venous blood of female mammal (col. 8, line 63-65), preparing plasma from the ovarian venous blood by centrifugation (col. 9, lines 8, 18-19), partially purifying the material from the plasma by dialyzing with 10 kD exclusion membrane (col. 9, line 26), by chromatography and by washing with 0.5 M NaCl solutions (col. 9, lines 8-31).

(*Id.*)

FF11 The Examiner also finds that diZerega discloses a material that has the ability to reduce organ mass (Ans. 3 (citing diZerega, col. 3, ll. 55-58; col. 10, ll. 47-64)), such as ovarian weight (Ans. 4 (citing diZerega col. 4, ll. 19-31; and col. 11, ll. 52-54)).

FF12 Therefore, the Examiner finds that the material of diZerega is the same as the claimed material as: (1) it is derived from the same source—the ovarian blood of a mammal; (2) it has an identical molecular weight; (3) it is collected at about the time of ovulation or after, and is thus "considered to be the same material that would have been induced by clomiphene post-oestrus (post-ovulation) mammal . . . since clomiphene is a generic ovulation-inducing agent;" and (4) it has the same effect such as organ mass reduction (Ans. 4).

FF13 As to the obviousness of the claims, the Examiner concludes:

> In the alternative, even if the claimed material and/or its fractions are not identical to the referenced material/fractions with regard to some unidentified characteristics as related to the protocol of purification including the use of a particular ion exchange chromatography columns or specific concentrations of NaCl, for example, the differences between that which is disclosed and that which is claimed are considered to be so slight that the referenced material and/or fractions are likely to inherently possess the same characteristics of the claimed material particularly in view of the same characteristics which they have been shown to share that are identical molecular weight, identical effects related to the weight reduction and identical source of isolation.

(*Id.* at 5.)

FF14 diZerega discloses "a protein moiety which regulates the maturation of ovarian follicles and the production of a viable ovum without elevating the normal levels of sex hormone in the body." (diZerega, col. 3, ll. 13-17.) Specifically, diZerega teaches the "isolation and purification of [a] follicular protein moiety and its use in the inhibition of the production of the aromatase enzyme, stimulation of 3β-ol dehydrogenase production, regulation of mature ova formulation and the production of the protein by granulosa cell cultures." (*Id.* at col. 8, ll. 4-10.)

FF15 "The protein moiety is isolated from ovarian venous effluent, and human and porcine follicular fluid by methods such as salt fractionation and dialysis and purification by lyophil[i]zation and chromatography." (*Id.* at ll. 11-14.)

FF16 Thus, diZerega teaches collection of ovarian venous blood from six woman 12-14 days of the last menstrual cycle (*id.* at ll. 63-66). Note that ovarian venous blood was also collected from a patient from the ovary contralateral to the site of ovulation (*Id.* at col. 10, ll. 52-54). The first three patients had regular menstrual cycles, while the last three were anovulatory (*id.* at col. 8, ll. 67-68). Peripheral serum was also collected (*id.* at col. 9, ll. 6-7). The levels of 17β-estraiol in the first three patients was consistent with normal preovulatory levels (*id.* at ll. 10-15), while the last three patients had low levels of 17β-estraiol (*id.* at ll. 15-19).

FF17 Serum was separated by centrifugation, and frozen (*id.* at ll. 8-10). Crude fractions of the protein moiety were prepared from the plasma by dialyzing with 10 kD exclusion membrane (*id.* at l. 26), by chromatography and by washing with 0.5 M NaCl solutions (*id.* at ll. 8-31).

FF18 Thus, diZerega teaches a crude 10-30 kD sub-fraction obtained from ovarian venous blood from pre-ovulatory patients, including from venous blood from the ovary contralateral to the site of ovulation, as well the venous blood from anovulatory patients.

FF19 According to diZerega,

> Thus, it is seen that at least one protein is secreted by the preovulatory ovary which suppresses the follicle response to gonadotropins. Specifically, a heat- and trypsin-labile substance secreted directly into the venous drainage from the ovary containing the dominant follicle which suppresses the follicular response to gonadotropins. That this protein is not secreted in large amounts by anovulatory ovaries was evidenced by the failure of the bioassay to detect inhibitory activity in the venous drainage of the contralateral ovary of patients 1-3 as well as the ovarian venous effluents from three anovulatory women. This potential intra- and/or interovarian regulator of folliculogenesis mediates dominance of the preovulatory follicle by an active process, such that after the selection of the dominant follicle, the gonadotropin responsivity of other follicles on the same and contralateral ovaries is suppressed.

(*Id.* at col. 11, l. 55-col. 12, l. 3.)

FF20 According to a Declaration of the inventor, Dr. Hart,

> diZerega discloses "Follicular Regulating Protein" (hereinafter FRP). FRP is only detectable downstream of an ovary which is just about to ovulate, and is not concurrently detectable downstream of the contralateral anovulatory ovary. Micrin is detectable six-days post post-oestrus (i.e. post-ovulation), downstream of both ovaries, concurrently. FRP is not detectable in anovulatory individuals. Micrin is detectable in anovulatory individuals. FRP is not detectable in peripheral blood. Micrin is detectable in peripheral blood.

(¶7, Declaration of Dr. John Ernest Hart under 37 CFR § 1.132, dated July 18, 2003.)

FF21 The Examiner rejects claims 1, 3-6, 8, and 11-14 under 35 U.S.C. § 103(a) as being obvious over the teachings of diZerega (Ans. 6).

FF22 The Examiner finds that diZerega fails to specifically disclose the use of sheep as the source of the venous blood as required by claims 6 and 14, but finds that it would have been obvious to do so because diZerega teaches the use of both humans and pigs (Ans. 6-7).

PRINCIPLES OF LAW

In order for a prior art reference to serve as an anticipatory reference, it must disclose every limitation of the claimed invention, either explicitly or inherently. *In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997).

Moreover:

> *Where . . . the claimed and prior art products are identical or substantially identical,* or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product…. Whether the rejection is based on "inherency" under 35 U.S.C. § 102, on "prima facie obviousness" under 35 U.S.C. § 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO's inability to manufacture products or to obtain and compare prior art products.

In re Best, 562 F.2d 1252, 1255 (CCPA 1977) (emphasis added.)

ANALYSIS

Appellant argues that while diZerega teaches a material whose molecular mass falls with the range set forth in the claims, it "does not possess (explicitly or inherently) the characteristics set forth in the . . . claims." (App. Br. 3.) More specifically, Appellant argues that micrin is obtained post-oestrus (after ovulation), whereas the sampling of diZerega is pre-oestrus (preovulatory) (*id.* at 10). According to Appellant:

> The claimed material is produced from a different source as follows: FRP activity was detected in ovarian venous blood downstream of ovulatory ovaries, but no FRP activity was found when using peripheral blood or ovarian venous blood from the contralateral anovulatory ovary (see column 10 lines 52-57), nor was there any activity in the case of bilaterally anovulatory patients (see column 10 lines 57-60); in contrast, micrin is found in blood from either ovary and is also detectable in bilaterally anovulatory individuals and in peripheral blood. Micrin is also obtained at a different time during the female reproductive cycle, and has the significantly different property of being able to reduce gonadal and non-gonadal organ size.

(*Id.* at 12).

We agree with Appellant, for the reasons set forth above, that FRP as taught by diZerega appears to be a different moiety than the moiety that Appellant terms micrin.

Claim 1, however, is drawn to a crude subfraction of plasma obtained from ovarian venous blood. Specifically, claim 1 is drawn to an endogenous material, inducible in a mammal post-oestrus by chlomiphene, and having the ability to reduce the mass of body organs including non-gonadal organs, of a live adult material, the material being obtained by: 1) collecting ovarian venous blood from a female animal post-oestrus; 2) preparing ovarian

venous plasma from the blood; and 3) at least partially purifying said material from the plasma to obtain at least a nominal 10-30 kD sub-fraction.

diZerega teaches performing step all three steps on ovarian venous blood collected from a preovulatory patient, from the ovary contralateral to the site of ovulation, as well as from anovulatory patients (FF18). Thus, diZerega teaches a crude 10-30 kD sub-fraction obtained from ovarian venous blood from pre-ovulatory patients, including from venous blood from the ovary contralateral to the site of ovulation, as well the venous blood from anovulatory patients. As the Specification teaches that clomiphene is not necessary to induce the production of micrin (FF16-18), and as Appellant's declaration specifically states that micrin may be found in the venous blood of anovulatory females (FF20), it would appear that the crude sub-fractions of diZerega from venous blood from the ovary contralateral to the site of ovulation, as well the venous blood from anovulatory patient, would appear to be the same as the crude subfraction of venous blood of claim 1. The burden is therefore shifted to Appellant to demonstrate that they are different.

We thus affirm the rejection as to claim 1. As claims 3-5, 8, and 11-13 stand or fall with that claim, the rejection is affirmed as to those claims as well. But as our rationale differs from that of the Examiner, we designate our affirmance as a new ground of rejection.

In addition, as Appellant rely on their arguments that FRP and micrin appear to be different, we also affirm the rejection of claims 1, 3-6, 8, and 11-14 under 35 U.S.C. § 103(a) as being obvious over the teachings of

diZerega, as well, for the reasons set forth above. We also designate this affirmance as a new ground of rejection.

CONCLUSIONS OF LAW

Thus, we find that diZerega teaches a crude subfraction of venous blood that anticipates the crude subfraction of venous blood of claim 1.

TIME LIMITS

This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b) (effective September 13, 2004, 69 Fed. Reg. 49960 (August 12, 2004), 1286 Off. Gaz. Pat. Office 21 (September 7, 2004)). 37 C.F.R. § 41.50(b) provides "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review."

37 C.F.R. § 41.50(b) also provides that the Appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

> (1) *Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the Examiner, in which event the proceeding will be remanded to the Examiner. . . .
>
> (2) *Request rehearing.* Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED; 37 C.F.R. § 41.50(b)

Ssc:

SALIWANCHIK LLOYD & SALIWANCHIK
A PROFESSIONAL ASSOCIATION
P.O. BOX 142950
GAINESVILLE, FL 32614-2950